

REMARKS

Claims 1-12 are pending. The Examiner rejected claims 1-12. By way of this amendment claim 8 has been amended. Care has been exercised to avoid the introduction of new matter.

In the first enumerated paragraph of the Office Action, the Examiner objected to the drawings pursuant to 37 C.F.R. § 1.84(u). In response, it is proposed to amend FIGS. 2, 3 and 7 to recite the proper numbering and lettering, as required under 37 C.F.R. § 1.84(u). Accompanying this Amendment is a Request for Approval of Drawing Amendment and proposed drawing corrections for FIGS. 2, 3 and 7. Applicant, therefore, respectfully submits that the imposed objection to the drawings has been overcome and, hence, solicit withdrawal thereof. Moreover, the corresponding text in the specification has been amended to support the drawing amendment. Care has been exercised to avoid the introduction of new matter.

The Examiner objected to the abstract and required correction pursuant to MPEP § 608.01(b). Accompanying this amendment, on a separate sheet of paper, is a new abstract in single paragraph form and within the range of 50 to 150 words. Applicant, therefore, respectfully submits that the imposed objection to the abstract has been overcome and, hence, solicit withdrawal thereof.

The Examiner objected to Applicant's use of the terms cobar and cobal at pages 16 and 18, respectively. Applicant has amended the specification to remove reference to the terms cobar and cobal. Applicant notes that the actual tradename for the Fe-Ni-Co alloy example recited in the specification is KOVAR. Applicant respectfully submits that

the imposed objection to the specification has been overcome and, hence, solicit withdrawal thereof.

Claim 8 was rejected under 35 U.S.C. § 112, second paragraph. Applicant respectfully traverses the rejection. Claim 8 has been amended to address the antecedent basis issue raised by the Examiner by reciting the limitation "said resin" in line 2. Applicant, therefore, respectfully submits that the imposed rejection of claim 8 has been overcome and, hence, solicit withdrawal thereof.

Claims 1, 3, 5, 6, and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower et al. (U.S. Pat. No. 6,020,628, hereinafter "Tower") in view of Grossinger et al. (U.S. Pat. No. 5,712,622, hereinafter "Grossinger"). Applicant respectfully traverses the rejection for the reasons set forth *infra*.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view of Grossinger, and further in view of Carnall, Jr. et al. (U.S. Pat. No. 3,131,238, hereinafter "Carnall"). Applicant respectfully traverses the rejection for the reasons set forth *infra*.

Claims 2 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view of Grossinger, and further in view of Scherber et al. (U.S. Pat. No. 4,708,419, hereinafter "Scherber"). Applicant respectfully traverses the rejection for the reasons set forth *infra*.

Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view of Grossinger and Scherber, and further in view of Silvestrini et al. (U.S. Pat. No. 4,323,619, hereinafter "Silvestrini"). Applicant respectfully traverses the rejection for the reasons set forth *infra*.

Claims 1, 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Castleman (U.S. Pat. No. 6,153,881) in view of Grossinger. Applicant respectfully traverses the rejection for the reasons set forth *infra*.

Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Castleman in view of Grossinger and further in view of Adachi et al. (U.S. Pat. No. 4,302,674, hereinafter "Adachi"). Applicant respectfully traverses the rejection for the reasons set forth *infra*.

Independent claim 1 describes a ceramic infrared sensor, having a lens body, comprising ceramic, a supporting part, which supports the lens body, and a detection part, which detects the light that has been transmitted through the lens body. A pigment that shields visible light is contained in the lens body.

Independent claim 2 describes a ceramic infrared sensor, having a lens body, which is comprised of a ceramic part and a resin layer that covers at least the light receiving surface of the ceramic part, a supporting part, which supports the lens body, and a detection part, which detects the light that has been transmitted through the lens body. A pigment that shields visible light is contained in the ceramic part and/or resin layer of the lens body.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

1988). The determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546, 48 USPQ2d 1321, 1329 (Fed. Cir. 1998). There must be a teaching or suggestion within the prior art, within the nature of the problem to be solved, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources, to select particular elements, and to combine them as combined by the inventor. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665, 57 USPQ2d 1161, 1167 (Fed. Cir. 2000); *ATD Corp.*, 159 F.3d at 546, 48 USPQ2d at 1329; *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1072, 30 USPQ2d 1377, 1379 (Fed. Cir. 1994) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination.").

The Examiner rejected claim 1 over the combined teachings of Tower and Grossinger. The Examiner stated that Tower discloses a ceramic infrared sensor of the present claim, but acknowledged that Tower does not teach a pigment contained in the lens body that shields visible light. In an attempt to remedy this deficiency, the Examiner relied on Grossinger, which allegedly teaches that it is known in the art to provide a lens with pigment particles to absorb and diffuse visible light. The Examiner concluded that it would have been obvious to one having ordinary skill in the art to provide the ceramic lens of Tower with the pigment of Grossinger. Applicant respectfully traverses.

As acknowledged by the Examiner, Tower does not teach a ceramic infrared sensor comprising, in pertinent part, a pigment contained in a ceramic lens. Applicant notes that Tower does not disclose a ceramic infrared sensor, but rather, generally discloses an

optically transparent ceramic lens that is press-fit into an aperture formed in a metallic housing and a metallic coating layer then deposited on the aperture walls. See col. 1, lines 10-15. Thus, Tower's invention relates to a process of forming a hermetic ceramic to metal seal. See col. 1, lines 54-60. Further, Tower teaches away from using pigment in the lens body and instead the optically transparent member 12 is coated with a thin anti-reflective coating 36 to prevent extraneous optical signals from sending spurious messages to the optically active portion 32. See col. 3, lines 8-14. Further, contrary to the Examiner's conclusion, Grossinger actually teaches away from using pigmented particles. See col. 2, lines 1-20. Grossinger discloses that pigmentation of the lens has numerous drawbacks. Firstly, Grossinger states that the pigmented lens also absorbs and diffuses visible radiation originating from within the detector, particularly light originating from indicator LEDs mounted within the detector, making such indicator LEDs practically invisible through the window or lens. Secondly, existing pigmented lenses are not suitable for outdoor use since they tend to become brittle and less transmissive to infrared light after being exposed to direct sunlight, and/or other outdoor weather conditions, for a long period of time. See col. 2, lines 10-20. Grossinger's invention uses a diffractive optical element consisting of a diffraction grating formed on the surface of the lens which receives incident radiation. See col. 2, lines 40-53. Grossinger teaches that substantial shielding is performed by the grating 30, and optionally uses pigmentation in the detector 10, but does not disclose the use of pigments included in the lens body, as claimed.

Thus, both Tower and Grossinger teach away from including a pigment in the lens body to shield visible light and therefore constitute evidence of nonobviousness. *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993), *Specialty Composites v. Cabot*

*Corp.*, 845 F.2d 981, 6 USPQ2d 1601 (Fed. Cir. 1988), *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986), *In re Marshall*, 578 F.2d 301, 198 USPQ 344 (CCPA 1978). Moreover, the secondary reference (Carnall) does not remedy the above deficiencies of Tower and Grossinger. Accordingly, the rejections recited in enumerated paragraphs 10 and 11, are not legally viable and, hence, Applicant solicits withdrawal thereof.

The Examiner rejected claim 1 over the combination of Castleman and Grossinger. The Examiner acknowledged that Castleman does not teach a ceramic infrared sensor comprising, in pertinent part, a pigment contained in the lens body, as claimed. The Examiner relied on Grossinger in an attempt to remedy this deficiency. The Examiner concluded that it would have been obvious to one having ordinary skill in the art to provide the ceramic lens of Castleman with the pigment of Grossinger to counteract visible light heating. Applicant respectfully traverses.

As acknowledged by the Examiner, Castleman is silent as to a pigment contained in the lens body. Further, as stated above, Grossinger teaches away from the use of pigment in the lens body and, therefore, there is no teaching or suggestion in either reference to support the Examiner's determination of obviousness. Absent this teaching or suggestion, the rejection is not legally viable. Further, the secondary reference (Adachi) does not remedy the deficiencies of Castleman and Grossinger. Accordingly, Applicant respectfully solicits the withdrawal of the rejections recited in enumerated paragraphs 14 and 15.

Independent claim 2 was rejected by the Examiner over the combination of Tower, Grossinger and Scherber. The Examiner relied on the combination of Tower and Grossinger, as stated above, and relied on the additional teachings of Scherber for a polyethylene layer (resin layer) covering the ceramic portion of the lens body. The

Examiner stated that it would have been obvious to one having ordinary skill in the art to provide a polyethylene layer overlying the lens body of Tower in order to protect the lens, as taught by Scherber. Applicant respectfully traverses.

Applicant relies on the arguments above with respect to the combination of Tower and Grossinger. Further, Scherber provides no suggestion or teaching to include a pigment in the lens body and, therefore does not remedy the deficiencies of Tower and Grossinger. Last, the remaining secondary reference (Silvestrini) fails to provide any suggestion or teaching with respect to a pigment included in the lens body to shield visible light. Thus, the rejections in enumerated paragraphs 12 and 13 are not legally viable and Applicant respectfully solicits withdrawal thereof.

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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